

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number  
**WO 2004/023014 A3**

(51) International Patent Classification<sup>7</sup>: **E21B 19/16**

(21) International Application Number:  
**PCT/US2003/025716**

(22) International Filing Date: 18 August 2003 (18.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/412,371 9 September 2002 (09.09.2002) US

(71) Applicant (for all designated States except US): **ENVEN-  
TURE GLOBAL TECHNOLOGY [US/US]; 16200 A Park  
Row, Houston, TX 77084 (US).**

(72) Inventors; and

(75) Inventors/Applicants (for US only): **COSTA, Scott  
[US/US]; 2011 Willow Point, Kingwood, TX 77330 (US).  
RING, Lev [US/US]; 14126 Heatherhill Place, Houston,  
TX 77077 (US). MENCHACA, Jose [US/US]; 9800  
Pagewood Lane, Number 210, Houston, TX 77042 (US).**

(74) Agent: **MATTINGLY, Todd; Haynes and Boone, LLP,  
1000 Louisiana, Suite 4300, Houston, TX 77002-5012  
(US).**

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,  
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

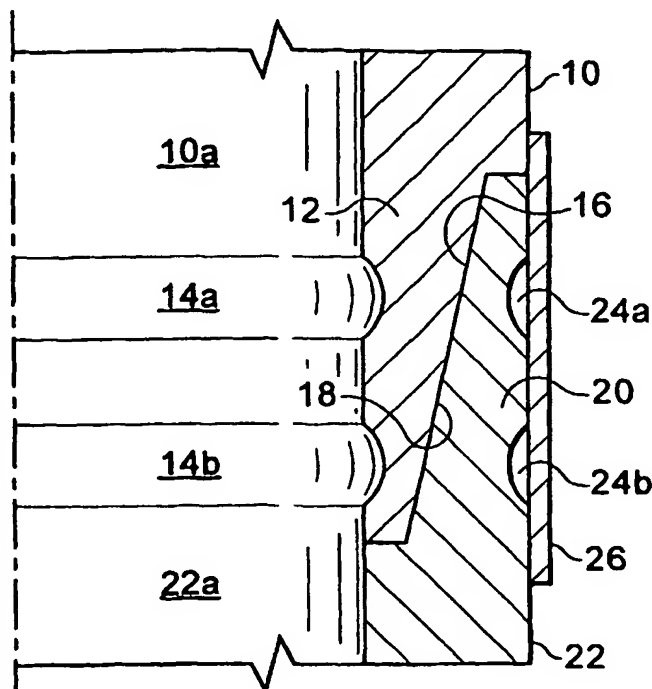
Published:

— with international search report

— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

[Continued on next page]

(54) Title: **THREADED CONNECTION FOR EXPANDABLE TUBULARS**



(57) Abstract: A threaded connection for expand-  
able tubulars. There is a first tubular (10) with ex-  
ternal threads (16) and a second tubular (22) with  
matching internal threads. Each of these tubular has  
stress concentration grooves (14a, 14b, 24a, 24b).  
There is a sleeve (26) that goes over the connection  
between the threaded portions of the tubulars. After  
connection these tubulars can be expanded down-  
hole in a wellbore.

WO 2004/023014 A3

REST AVAILABLE COPY



(88) Date of publication of the international search report:  
3 March 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(15) Information about Correction:

Previous Correction:

see PCT Gazette No. 41/2004 of 7 October 2004, Section II

BEST AVAILABLE COPY

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/25716

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : E21B 19/16

US CL : 166/380, 207; 285/333

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 166/380, 207, 381, 382, 206; 285/333, 334; 403/297

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                           | Relevant to claim No.          |
|------------|--|--------------------------------|
| X          | US 5,924,745 A (Campbell) 20 July 1999 (20.07.1999), figures 3 and 4, column 3, lines 9 - column 4, line 27. | 1, 3-5, 7-9, 11, 12, 15, 17-21 |
| Y          | SU 1,756,531 A (KRYZHANOVSKII et al) 28 March 1990 (28.03.1990), Figure 1, abstract.                         | 1, 3-5, 7-9, 11, 12, 15, 17-21 |
| Y          | WO 99/23354 (METCALFE) 14 May 1999 (14.05.1999), figure 5, page 11 lines 23-28.                              | 1, 3-5, 7-9, 11, 12, 15, 17-21 |
| A, E       | US 6,622,797 B2 (SIVLEY IV) 23 September 2003 (23.09.2003), whole document.                                  | 1-12, 15-21                    |
| A, E       | US 6,607,220 B2 (SIVLEY, IV) 19 August 2003 (19.08.2003), whole document.                                    | 1-12, 15-21                    |
| A, P       | US 6,564,875 B1 (BULLOCK) 20 May 2003 (20.05.2003), whole document.  | 1-12, 15-21                    |
| A          | US 2002/0108756 A1 (HARRALL et al) 15 August 2002 (15.06.2002), whole document.                              | 1-12, 15-21                    |
| A          | US 6,322,109 B1 (CAMPBELL et al) 27 November 2001 (27.11.2001), whole document.                              | 1-12, 15-21                    |
| A          | US 6,085,838 A (VERCAEMER et al) 11 July 2000 (11.07.2000), whole document.                                  | 1-12, 15-21                    |

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

| Special categories of cited documents:  |  |
|---|--|
| * "A" document defining the general state of the art which is not considered to be of particular relevance  | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
| * "B" earlier application or patent published on or after the international filing date   | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone   |
| * "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| * "O" document referring to an oral disclosure, use, exhibition or other means  | "Z" document member of the same patent family  |
| * "P" document published prior to the international filing date but later than the priority date claimed  |  |

Date of the actual completion of the international search

12 March 2004 (12.03.2004)

Date of mailing of the international search report

13 JAN 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

David J. Bagnell *[Signature]*  
Telephone No. (703) 308-1113

INTERNATIONAL SEARCH REPORT

PCT/US03/25716

BEST AVAILABLE COPY

**Continuation of B. FIELDS SEARCHED Item 3:**  
Derwent, JPO, EPO

Terms: Thread, Stress concentrator, stress, expand/expanding, tubular, casing